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ABSTRACT

This document evaluates the effectiveness of a project on health education conducted in Appalachian Maryland. The emphasis of the project was on teaching children in the fifth grade about lung and respiratory system problems and their connection with smoking. This health education course was incorporated into their regular curriculum. Prior to implementing the health program in the classroom, school personnel were involved in an intensive workshop that provided learning activities based on the philosophy that children could make positive and rational decisions regarding their health behavior. The responses and reactions of the teachers to the workshop program are tabulated in the document. Following actual classroom application of instruction for a year, the children involved, as well as their parents, were asked to assess the project and to express their reactions to the subTect and the way in which it was taught. The results of their responses to questionnaires are tabulated. The assessments of the teachers involved are also recorded. (JD)

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ED146128

A PROGRESS ASSESSMENT OF THE SCHOOL HEALTH EDUCATION PROJECT OF APPALACHIAN MARYLAND

Project #03-H-000, 274-01-0
ARC Section 202 - Health Demonstration Funds

U.S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Submitted to

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December, 1975

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Appreciation is extended to the many teachers, parents, principals, central office staff, and public health officers and their staff for their many hours of dedication to the project.

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H. Eugene Hall, Project Evaluator
and RESA Educational Associate

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CHAPTER I

AN ASSESSMENT OF THE SCHOOL HEALTH EDUCATION PROJECT

INTRODUCTION

During the 1974-75 Program Year, The Regional Education Service Agency of Appalachian Maryland received a grant from the Appalachian Regional Commission for the purpose of conducting a regional School Health Education Program which would "educate children in proper health habits by incorporating the Berkeley Smoking and Health Curriculum into the regular curriculum at the fifth, sixth, and seventh grades of the Appalachian Maryland School System." The funds were made available through Section 202, Health Demonstration funds. The first year project bears the identifying number 03-H-000, 274-01-0.

During the first year of the project, the lung and respiratory system curriculum of the Berkeley Health Model was incorporated into the fifth grade and administered to approximately 2,600 students. The original intent was to include some 3,700 students; however, due to the September 1, 1974 beginning date, 2,600 children completed the project during the first project year.

Consistent with the conditions of the notice of grant award, a plan for measuring the results of the curriculum were to be submitted to the funding agency. The following progress assessment is intended to fulfill this request.

CHAPTER II

EVALUATION COMPONENT

The purpose of the evaluation component, of the School Health Education (Berkeley) Project was to collect baseline data to determine program effectiveness. Four informal assessment techniques were utilized to determine levels of accomplishments: (1) questionnaire and rating scale for the workshop/training sessions; (2) knowledge test and attitude inventory of a sample of fifth grade students; (3) open-ended questionnaires for the purpose of retrieving parent and teacher information; and (4) on-site visits utilizing a team approach.

TRAINING SESSIONS

Prior to implementing the health program in the classroom setting, school personnel were involved in an intensive workshop which provided learning activities based on the philosophy that children could make positive and rational decisions regarding their health behavior. (3:450)*

Training sessions have been conducted in Allegany and Washington Counties. Previously trained teams were utilized to conduct the workshops. One team trained 82 teachers and principals from Allegany and Garrett Counties, and the second team trained 68 teachers and principals from Washington County.

*The number preceding the colon refers to the number assigned in the Selected References, and the number(s) following the colon indicates the page or pages cited.

At the conclusion of the workshops, a questionnaire (1) and rating scale instrument (2) were completed by 126 of the participants (84.0 percent). The results of the questionnaire are presented in Table I by County and Region.

Value of the Workshop

Overall, the participants (Region) indicated that the workshop was a valuable experience. Teachers and principals (71.4 percent) responded in writing to specific activities or ideas that were particularly valuable. The following are summary statements:

> "Our bodies are very important and should be protected from harmful elements."
>
> "Lung dissection, learning to give mouth-to-mouth resuscitation, harmful effects of smoking..."
>
> "The resource people, films, and other materials that are available..."
>
> "...the preparation of the learning centers..."
>
> "Involving students during the workshop..."
>
> "The extensive involvement of community agencies-Health Departments, medical community, etc..."
>
> "The cooperation and involvement of the group."

Four respondents, from Allegany and Garrett Counties, indicated two areas of concern: (1) selection of certain resource people, and (2) game activities. Six participants, from Washington County, expressed concern that the team leaders smoked during the

TABI

RESPONSES TO STATEMENTS RELATING TO SCHOOL HEALTH EDUCATION TRAINING SESSIONS BY RESPONDENTS TO THE QUESTIONNAIRE BY COUNTY AND REGION

Statement	Allegany N	Allegany Per Cent of Total	Garrett N	Garrett Per Cent of Total	Washington N	Washington Per Cent of Total	Region N	Region Per Cent of Total
1. Do you feel that anything of value happened during this workshop?								
a. Yes, quite a lot	46	86.8	8	61.5	52	86.7	106	84.1
b. Yes, something	7	13.2	5	38.5	8	13.3	20	15.9
c. Not much	-	-	-	-	-	-	-	-
d. Nothing	-	-	-	-	-	-	-	-
TOTAL	53	100.0	13	100.0	60	100.0	126	100.0
2. If you found something of value in this workshop, does any particular happening or idea stand out in your mind?								
a. Nothing of value happened	-	-	-	-	-	-	-	-
b. It was a valuable workshop, but no particular thing stands out	15	28.3	4	30.8	17	28.3	36	28.6
c. Yes, something does stand out for me, namely	38	71.7	9	69.2	43	71.7	90	71.4
TOTAL	53	100.0	13	100.0	60	100.0	126	100.0

TABLE I (cont'd)

RESPONSES TO STATEMENTS RELATING TO SCHOOL HEALTH EDUCATION TRAINING SESSIONS BY RESPONDENTS TO THE QUESTIONNAIRE BY COUNTY AND REGION

Statement	Allegany N	Allegany Per Cent of Total	Garrett N	Garrett Per Cent of Total	Washington N	Washington Per Cent of Total	Region N	Region Per Cent of Total
3. If you found something in this workshop to be of no value, was there a particular happening or idea that stands out in your mind as being valueless?								
a. Most everything was of some value	40	75.5	3	23.1	47	78.4	90	71.4
b. Some parts of the workshop had no value, but no particular thing stands out	8	15.1	8	61.5	5	8.3	21	16.7
c. Yes, something stands out for me as having no value namely	5	9.4	2	15.4	6	10.0	13	10.3
d. No response	-	-	-	-	2	3.3	2	1.6
TOTAL	53	100.0	13	100.0	60	100.0	126	100.0

TABLE I (cont'd)

RESPONSES TO STATEMENTS RELATING TO SCHOOL HEALTH EDUCATION TRAINING SESSIONS BY RESPONDENTS TO THE QUESTIONNAIRE BY COUNTY AND REGION

Statement	Allegany N	Allegany Per Cent of Total	Garrett N	Garrett Per Cent of Total	Washington N	Washington Per Cent of Total	Region N	Region Per Cent of Total
4. Was there any feature about the way this group operated that you thought particularly effective?								
a. Yes, namely	48	90.6	9	69.2	53	88.4	110	87.3
b. No	5	9.4	4	30.8	6	10.0	15	11.9
c. No Response	-	-	-	-	1	1.6	1	.8
TOTAL	53	100.0	13	100.0	60	100.0	126	100.0
5. Was there any feature about the way this group operated that you thought particularly ineffective?								
a. Yes, namely	53	20.8	-	-	5	8.3	16	12.7
b. No	42	79.2	13	100.0	51	85.0	106	84.1
c. No Response	-	-	-	-	4	6.7	4	3.2
TOTAL	53	100.0	13	100.0	60	100.0	126	100.0

the training sessions. These concerns were corrected in the subsequent workshops.

Team Effectiveness

The participants (87.3 percent) commented that the training teams were particularly effective:

"...cooperative attitude..."

"Informal atmosphere."

"Group participation in the different activities."

"Demonstrating various techniques to be used when the program is implemented."

Two respondents from Allegany County indicated an area of concern regarding the use of certain games.

Workshop Effectiveness

A rating scale (2) was also designed to determine the effectiveness of the training sessions. Table II presents the mean responses for the variables that were rated by the workshop participants.

Overall, the data indicate that the workshops were effective. Allegany and Washington County participants appeared to be more positive about the workshop than Garrett County participants. As the data indicated, the Garrett County participants rated participation 3.46 which could have influenced their responses to the other variables. Possible explanations for the variances could be attributed to:

1. Garrett County participants were newcomers to the group since the training session was conducted in Allegany County.

TABLE II

RESPONSES TO STATEMENTS RELATING TO SCHOOL HEALTH EDUCATION TRAINING SESSIONS BY RESPONDENTS TO THE RATING SCALE BY COUNTY AND REGION

RATING: Poor 1 2 3 4 5 Good

Statement	Allegany (N=53) Mean	Garrett (N=13) Mean	Washington (N=60) Mean	Region (N=126) Mean
1. Goals of the workshop	4.55	3.76	4.47	4.26
2. Participation in the workshop	4.33	3.46	4.58	4.12
3. Leadership of the workshop	4.55	3.84	4.47	4.29
4. Your feelings during the workshop	4.28	3.76	4.66	4.23
5. Organization of the workshop	4.46	3.92	4.47	4.28
6. Attitude about the workshop	4.51	3.76	4.73	4.33
7. Content of the workshop	4.49	3.69	4.62	4.27
8. Productivity of the workshop	4.50	3.61	4.70	4.27

2. The principals and teachers of Garrett County were not too acquainted with the Berkeley Program.

3. The Garrett County participants had to travel a greater distance to and from the workshop.

4. The principals were not able to attend all sessions due to other scheduled meetings in the county.

Suggestions for Improvement

Workshop participants responded to an open-ended question: "What suggestions or criticisms do you have for improving the workshop?"

1. Several respondents, from the three counties, suggested the need for more time on actual construction of the learning centers.

2. Participants in the Allegany County workshop suggested that the workshop should be scheduled in the summer or on consecutive days, during the school year, instead of having it spread out over a period of time.

3. Respondents from Garrett County indicated the need for participation by the principals at the workshop. One of the teachers stated: "There should be mandatory participation on the part of the principals and supervisors."

4. The need for game playing was identified as a concern by six Allegany and Garrett participants.

5. Several respondents, from the three counties, indicated that the workshop was one of the most beneficial and productive they had ever attended.

KNOWLEDGE TEST AND ATTITUDE INVENTORY

The first year program emphasized the lung and respiratory system as an innovative approach to teach preventive health at the fifth grade level. For purposes of progress reporting, a control and experimental group design was utilized to (1) assess gains in knowledge by participants and (2) gather baseline attitudinal information for a subsequent longitudinal study involving the participants. The selected sample involved some 700 experimental and 700 control students in 26 elementary schools in Washington County. To allow for socio-economic and geographic conditions the sample was further divided to provide two experimental groups of approximately 350 each and two control groups of approximately 350 each. It was determined that Groups I and and III and Groups II and IV were comparable.

Knowledge

A modified form of the knowledge test developed by Dr. Larry K. Olsen at the University of Illinois was utilized to test cognitive gains on a pre-post test difference technique. This test was developed solely for the fifth grade component of the Berkeley Program. The program staff modified the original test to eliminate problems identified by Dr. Olsen in his study, and also to meet local needs. An item analysis was performed on the test data to insure that modification of the test had no negative effect on its subsequent use. The item analysis indicated that the modified

form was appropriate for use. It was found that ten (10) questions on the forty (40) question test did not reveal significance at the .05 level. At this time the project staff reviewed the test items and found that (1) the information being tested was covered in the regular science curriculum in both the control and experimental groups; (2) the Berkeley Unit did not emphasize the information being tested (muscles); or (3) the question, as stated on the test, was difficult to interpret.

When Group I was compared to Group III, it was found, using pre-post mean differences with t-test, that the results were approaching significance at the .118 level. When Group II was compared to Group IV, it was found that the results were approaching significance at the .079 level. It was concluded that, given the problems involving the ten questions on the test, the Berkeley Health Model, as presented at the fifth grade level, was truly significant. In reality, a significant difference was found in thirty (30) of the forty (40) test items.

Attitude

A modified form of the attitudinal inventory was also utilized to gain baseline information from the participants. It is the intent of the program staff to post-test a selected sample of 100 students when these fifth grade students have reached the ninth grade. The analysis of the attitude inventory, which compared all pre-test results by group, indicated that the instrument was in fact appropriate for assessing changes in attitude.

That is, no significant difference was found in the group comparisons.

PARENT REACTIONS

During the month of April and May, 1975, approximately 425 parents from Appalachian Maryland were asked to react to the School Health Education Program in which their children participated. Table III summarizes parent responses regarding general factors relating to the Berkeley Program. The data indicate that the parents were aware of the program, and are of the opinion that the program did have a positive affect on their child.

The results of how parents responded on several statements relating to comments their child made regarding the health program are presented in Table IV. Overall, the data indicate the child did discuss with their parents specific health information related to the Berkeley program. Hopefully, this transfer of health information to the family unit will have some positive influence in changing and reinforcing health attitudes and habits. One father commented that his daughter "...talked her mother into giving up smoking; I have been trying for years without success...I think the program should be continued."

The parents also had the opportunity to make additional comments regarding the health program. The following are typical statements made by parents:

TABLE III

PARENT RESPONSES TO QUESTIONS
RELATING TO SCHOOL HEALTH
EDUCATION PROGRAM
BY REGION

Question	Yes	No	No Response
1. Have you been aware that your child is studying health at school?	416	4	5
2. Do you think your child is more knowledgeable about ways to prevent respiratory problems? (for example - tuberculosis, lung cancer, emphysema, pneumonia, common cold, etc.)	409	8	7
3. Do you think your child is more likely to take care of his/her lungs and respiratory system as a result of the health program?	407	9	9
4. Do you think your child has more respect and appreciation of the community and its health services?	397	4	24

TABLE IV

COMMENTS CHILDREN MADE REGARDING THE HEALTH PROGRAM AS INDICATED BY PARENTS

Statement	REGION			
	No	Some	Considerable	No Response
1. How the environment influences health...	16	225	182	2
2. Smoking and his health...	17	66	338	4
3. How one can prevent respiratory problems...	16	207	188	14
4. Alcohol and his health...	42	138	230	15
5. Has become more aware and concerned about food and its contribution to good health...	33	199	186	7
6. How drugs affect the body...	17	129	276	3

"I am very pleased with what my daughter has learned from this program. She has shared with the whole family what she has learned."

"I think your program was very interesting. Even I have learned things that I didn't know before."

"I feel this program is very beneficial to our children as it is about the body, its parts and functions, and how to take care of one's health. The boys and girls were informed and did a very good job in the centers I visited. The outside people brought in for special information, the experiments, specimens, and equipment used, certainly added to the interest and learning of the children. The teachers are to be commended also as their interest in the program has been reflected in the students. I am very impressed with the whole Berkeley Program."

"I am very glad that this program is going on in school...she had become very interested in my health and her fathers also. She is constantly telling us what foods we should or should not eat, and also not to smoke. Please continue the program."

I feel this program has done a lot to make my son aware of hazards to his health in his environment."

In conclusion, the parents were overwhelmingly supportive of the health program, and indicated continuation of this "worthwhile" program.

TEACHER FOLLOW-UP

In May, 1975, forty-one teachers, who participated in the implementation of the Berkeley Program, were asked to respond to eight open-ended questions. Their typical responses have been summarized and are presented in Table 5. Overall, teacher reaction appears to be very supportive of the health program. Some teachers, however, did express concerns about: (1) updating some phases; (2) the difficulty for the children to comprehend

TABLE V

TEACHER RESPONSES TO QUESTIONS/STATEMENTS
AFTER IMPLEMENTING THE SCHOOL
HEALTH EDUCATION PROGRAM
BY REGION

Question/Statements	Summary/Typical Comments
1. Do you feel that the unit accomplished the overall goals of the program? Why or why not? Describe briefly.	Thirty-nine teachers indicated the overall goals were accomplished.
2. Make any comments which might give direction for program improvement.	...upgrading and revision of materials... ...provide a list of resource people for all phases... ...some materials were too difficult for the children to comprehend... The program should be so spaced throughout the year that one school is not waiting to receive the various phases.
3. What further help could have been provided at the inservice workshop?	...more time to complete centers... I feel that the workshop gave an excellent preparation for teaching this unit.
4. What aspect of the workshop was most helpful as you taught the unit?	...review of the body systems... ...being able to view the learning centers constructed by the other teachers...

Table V (con't.)

Question/Statements	Summary/Typical Comments
5. What instructional materials were most helpful?	...filmstrips, films, pamphlets, and anatomical models...
6. Describe consultant and community involvement during the unit.	...members of the rescue squad, nutritionists, health nurses, State Police, ...some doctors were involved...
	Consultant and community involvement was very good.
7. How did the children respond to the unit?	Most of the children were interested and enjoyed the health unit.
	Most students enjoyed the idea of the learning centers... some became frustrated when they had difficulty with comprehending the various readings and tapes.
8. Describe parent involvement throughout the unit?	Twenty-three teachers indicated parent involvement was very good; thirteen indicated little to none.

some materials, (3) the logistics of transferring the phases; and (4) encourage more parent involvement.

ON-SITE VISITS

Eight elementary schools were visited in the region by health and education specialists, and parents during March and April, 1975. The purpose of the visits was more informational than evaluative. Several members of the team were impressed with the health program. There was evidence that: (1) The children were learning the anatomy and physiology of the lungs. This was demonstrated to the on-site observers, by the children's responses, learning center materials, bulletin board displays, movies, etc; (2) The children were knowledgeable about ways to prevent respiratory problems. (e.g. posters, group investigation and reporting, comments to observers by children - proper nutrition; mouth-to-mouth resuscitation; regular check-up; exercise; harmful effects of smoking, alcohol, drugs, and air pollution; etc.); (3) The teachers appeared to be enthusiastic about the program. They were involved with the children while the children were working in groups. (e.g. reinforcement, guidance and direction, and suggestions); and (4) The school health nurses, rescue squad personnel, nutritionists, etc. participated in various phases of the program. Some doctors were also involved.

There were two concerns expressed by the team members: (1) Some principals should be more involved in the program; and

(2) The logistics of transferring the phases from one school to the other should be analyzed.

CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

MAJOR CONCLUSIONS

Based upon the findings of the first year endeavor of introducing the Berkeley Model in the fifth grade, the following major conclusions seem warranted:

1. The overall program experienced a major degree of success in the attainment of its major goals and objectives.

2. The workshops conducted by county staffs and teams were successful in that principals and teachers to be involved in the implementation of the Health Program received consistent and timely instruction pertaining to preventive health practices. Initial workshops pointed out the need for increased principal involvement and a sufficient amount of time to construct the learning centers. Procedures for incorporating these expressed needs in subsequent workshops have been taken into consideration.

Dr. Richard Foster, developer of the Berkeley Model, emphasizes the importance of principal involvement to maximize the efficiency and assure the quality of the health program.

The Project Director has contacted the Superintendents of Garrett and Washington Counties to make them aware of this concern. The respective Supervisors and Health Coordinators will make every attempt to improve principal involvement.

Some scheduling problems were experienced resulting in the recommendation that when feasible, workshops should be scheduled

on consecutive days during the school year or in the summer to insure consistency and continuity to the planning process.

3. Sufficient gains were made in the knowledge area by fifth grade participants in the program, and baseline data are now available in both the knowledge and attitude areas for subsequent comparison purposes. The overall design utilized to assess student increases in both knowledge and attitude was adequate and caused little concern on the part of teachers and administrators selected for testing purposes. The success of the fifth grade model can be carried over to the sixth and seventh grade levels.

Item analysis performed on the instruments indicated a need to continually assess the program content as well as the items contained in the instrument. The information gained through test analysis provided the project staff with sufficient information to change the test as well as supplement the Model, especially in the muscle unit.

4. Parents and teachers of the project participants are supportive and enthusiastic about the present status and progress of the School Health Program. The teachers have provided valuable feedback to the project staff for improving and updating materials, modifying the delivery system of the various phases, and encouraging more parent involvement at the local level for assistance in the classrooms.

5. The on-site visitations were extremely important to the visiting teams in that they provided health and education specialists, and parents with actual on-site performances and functioning of

the program. At the same time, some concerns were indicated involving principal involvement and scheduling of phase materials. Feedback of this nature allows the project staff to make alterations and minor modifications without having to wait until the end of the project to ever know that a problem exists.

RECOMMENDATIONS

Workshops

1. That workshops involving all three counties be continued for the purpose of insuring integration and successful implementation of the Berkeley Model.

2. That consideration be given to increasing the amount of time allocated to the construction of learning centers.

3. That all efforts be made to involve administrative personnel (principal) in all aspects and phases of the Model.

Knowledge Test and Attitude Inventory

1. That yearly assessment be made of the original sample to insure that attrition does not affect the sample over an extended period of time.

2. That similar sampling techniques be utilized in selecting and testing the sixth-grade Berkeley Program.

3. That the muscle section (unit) in the fifth-grade program be reviewed and supplemented accordingly.

4. That the Washington County project staff visit periodically with Allegany and Garrett County staffs to discuss those aspects of the fifth-grade program that resulted from this years testing.

Parent and Teacher Reactions

1. That the project staff continue to collect data from teachers concerning the overall functioning of the Berkeley Program and give immediate consideration to the concerns expressed.

2. That the project staff continue to collect feedback information from parents to determine the degree that health information is being transferred to the family unit, as well as to provide a communication link between the school and the home.

On-Site Visitation

That on-site visits continue for the purpose of insuring communication links between the home (parents), the health and education professionals, and school personnel.

Long-Range Considerations

1. That consideration be given to retaining the School Health Coordinator for the purpose of planning, coordinating, and implementing the total health program to insure program continuity and consistency.

2. That initial steps be taken to notify local institutions of higher education of the innovative and successful techniques of this program for the possible inclusion in Teacher Training Programs.

3. That the respective Boards of Education and Public Health Departments of Appalachian Maryland, continue to give total support to the program to insure continuation of the total Berkeley Program.

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SELECTED REFERENCES

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